

***P4 REFLECTION:***

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***Msc4, track in Urbanism***

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**INDEX:**

**Aspect 1**

The relationship between research and design

**Aspect 2**

The relationship between the theme of the graduation lab and the subject/ case study chosen by the student within this framework (location/object)

**Aspect 3**

The relationship between the methodical line of approach of the graduation lab and the method chosen by the student in this framework

**Aspect 4**

The relationship between the project and the wider social context

## ASPECT 1:

1) **The interviews with local actors** was a method helpful to identify the civic society development, identity of the place, economic circumstances, and track the process of NH separation from Kraków. This qualitative method was crucial to decide on further research and design concepts that answers the problematics underlined by the interlocutors.



Fig. 1. Three interviewers, three points of view. From left: activist Maciej Twaróg – separation from Kraków, urbanist Michał Stangel – urbanists more participative, historian Paweł Jagło – multiple identity of Nowa Huta

The method could be more successful if performed with more actors and if feedback from them can be done several times, to assess the decisions.

Some of the R&D decisions based on interviews:

- crowdfunding scenarios (local urban unit budget) to facilitate civic society occurrence
- transport infrastructure development based on steel components to enhance success of local steel manufacturing industries
- energetic willow and craft willow planting – regional occurring good to build identity on local products and enhance environment protection
- basing design scenarios in farmer and workers realm
  - low-tech industries that are easy to implement and does not need too much external technological input
- masterplan decisions creating opportunities to separate NH from Kraków – proposing bypass road between the cities, to create infrastructural border between entities; creating green loop around NH housing estate to form the city shape

2) Circular economy theory – **change in own research and design attitude**. The paradigm was suitable to build a strong opinion that sustainability is

a property of existing urban system, rather than new urban development.

<b>Economy</b>	Linear Driven by money Exclusive	→	Circular Driven by energy Inclusive
<b>Industry</b>	Focused on production	→	Focused on exchange, flows and servicing
<b>Nature and biodiversity</b>	Latter priority	→	First priority
<b>Capital</b>	Global, unstable, for global consumption	→	Local, stable, for internal consumption

Fig. 2. Research and design paradigm – from linear to circular thinking

Thus, the chosen theory has served as a base of critical thinking towards existing decisions of municipality. Reading literature may be not enough for the master thesis. Consultation with movement activists would help to understand the theory better.

R&D decisions based on the theory:

- design based on reusing what is already in NH
- industrial ecology as the focus point for new industries – utilization of existing industries waste to facilitate emergence of new industries; emergence of industries based on local potential
- emergence of local capital (glasshouses from recycled windows, shweeb transport network constructed and serviced by local manufacturers)
- linking industries with customers in the whole product life-cycles

### 3) Case studies to create feasible scenarios:

- Marzahn-Hellersdorf, Berlin – experiences from reviving post-communist prefabricated concrete housing estate

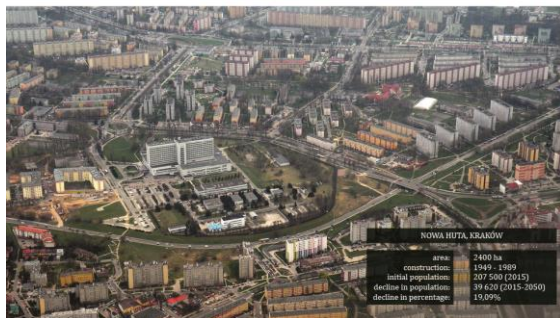


Fig. 3. Case study: learning on succes (failure) of the others. Marzahn-Hellersdorf compared to Nowa Huta

- Conclus, Architektburo – documented examples of reusing prefab concrete elements for new housing
- Kalundborg, Denmark – industrial ecology based on local industries cooperation

Case studies were used for every phase of the graduation. They helped to compare what was already done in similar situations and to build credibility of proposed changes in Nowa Huta. Case studies could be utilized better if having more time to analyze them carefully and get a feedback from people involved in similar R&D situation.

4) **design by research** – in project: exploring socio-economic problematics on different scales, from general global problems, through country to the city characteristics, that helps to build a moral, ethical and justified position towards those processes. Understanding how global processes affects cities lead to designing with recycling rather than external resources. The design decision supposed to create local capital, less volatile from global economy. If decision about the major concept of thesis was made sooner, it would help to conduct more profound literature review, data and theory research.

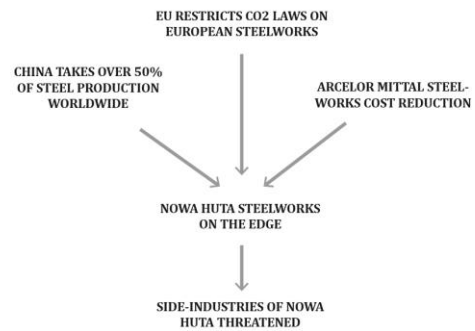


Fig. 4. Global processes and decisions affecting small industries in Nowa Huta

Other researched data that were transformed into design:

- projection of population (20% decline until 2050) as a base of strategy in which one part of the city is treated as „urban mining”, project needs to deal with shrinking scenario
- number of recycled cars every year in the area as a base for crowdfunding scenario which specify the overall length of new transport network - shweeb
- collected and assessed data helped to establish program for new development (number of new glasshouse farmers related to number of recycled windows from the area)
- local budgets helping to enhance civil society in area based on energy flows research, recycling scheme research, mapping existing industries that are involved in the scenario

5) **research by design** – very handy method, that reveals shortcomings of pre-conceptions. General rule: more tools used in design, more questions will raise that answer need to be researched. More questions asked – better quality of design.

Due to very busy work&study schedule, there was not enough time to go into more detailed scale, thus verification of the assumptions in the architectural level.



Fig. 5. From first idea to feasible design – design process

Some of the design tools used in the thesis:

- gradual development of plans (1:2000), that propel design to richer solutions, based on researching local conditions
- animating plans in 5 year steps that show process of changes, shows problematics in different stages of proposed scenario for NH and revealing shortcomings of the general scenario in its gradual development.

## **ASPECT 2:**

Design as Politics Studio with its theme „New Utopias on the Ruins of the Welfare State” requests to identify „a ruin” of the welfare system to create an unique utopia that can be created within local conditions.

The master thesis answers that request thoroughly:

- by **identifying a ruin that was created by welfare system – Nowa Huta** and its Steelworks, as a post-communist relict from the past, that did not handle the transformation to (comprador) capitalism. Problematics of the place touches many aspects: declining industry; natural degradation due to unfavorable geographical location and post-industrial brownfields; social problems such as ageing of society, mass exile, lack of trust between neighbours; public space and architecture quality degradation, lack of economical perspectives, stereotypisation

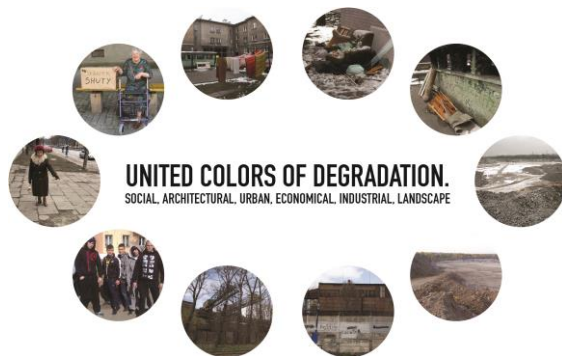


Fig. 6. The ruin of the welfare state occurring at many levels

- by creating **utopian scenario** – on a large scale as a separate entity, aiming to become more self-sufficient, with localized capital and society more responsible for itself (civic society), reversing bad economical and societal forecasts into quality and advantage. On mezo-scale proposing scenarios for selected areas that focus on evolutionary and constant guided change rather than applying masterplans. On small scale imagining the ambience of urban and architectural qualities that are an outcome of recycling what can be recycled.

The studio problematics was very clear and was framing the design (New Utopias) to local conditions, but did not hold back for looking for extraordinary solutions. The research field (Ruin of the Welfare State) could have been formalized in a better way or at least bringing more case studies on what are/what can be perceived as a ruin. More specificity would create more refined results at the ends.

### ASPECT 3:

Design as Politics Methodology consist of 4 Phases that the Master thesis is framed in.

#### *Phase 1: Explore and Decide*

**Studio:** The studio requested from students to choose an area and topic that student is strongly devoted to, also to take the political position towards the status quo in order to propose solution to improve the world.

**Master thesis:** The chosen location: Nowa Huta is the reflection of many polish urban and political distirtions. Municipality of Kraków avoids to look on the area in the coherent view and regarding future further than a couple of years forward. The proposed solution for revitalization (Local Revitalization Plan) is full of shortcomings, focusing only on beautification of architecture and buildings, avoiding to cope with social problems in the area, believing that EU money spend on refurbishment will solve all the problems. On the other hand, proposed urban vision called „Nowa Huta of the Future” is a capitalistic extension of the city claiming to be a „smart city” design. Referring to Maarten Hajer: „smart city cannot be created out of box”, NHP will be a vain strategy, based in the vast majority on external resources, without signs of innovation, that it claims.

**The strong alternative design was a driving motif for master thesis.** In this phase, critical thinking towards existing strategies, interviewing local actors, formulization of political position, choosing the scope of project and theory (circular economy) was important methods to go through the phase.

Also, workshops and excursions organized by the Studio were helpful to realize what is alternative urbanism (Tom Hatton), how the city can be transformed by the people (Staadmakers Congres) and how to create radical visions that can be a design motif for the rest of studio (Workshop in Swiss Pavilion at Venice Biennale).

Former methodology assumed to become more involved in political changes in Nowa Huta. Though, the lack of time, bad communication with local activists and perhaps misunderstandings failed to do so and shrinked to several discussions on activists facebook group. If project was perceived as qualitative approach at TU Delft, it would have been clear to continue with approach after graduation, directly in Nowa Huta, rather than from afar student desk.



Fig.7. Website of Magistrat Nowohucki: activists aiming for separating Nowa Huta from Kraków. An important source of data and design concepts

#### *Phase 2: Analyze and Position*

**Studio:** the Design as Politics Studio asked students to familiarize themselves with scientific papers, theories, opinions on chosen topic and to analyze thoroughly the area in order to find an utopian solution.

**Master thesis:** In order to find an alternative scenario for Nowa Huta, it was needed to scrutinize the position of municipality towards development and propose an alternative. Municipality of Kraków propose linear economy solutions for the area which is collect-build-dispose. Authorities does not respect low, inefficient density of the built environment and appoint new areas for development. The resources needed to develop their strategy are based mostly on EU fundings (80% of budget) and are clearly top-down, technocratic solutions that are becoming outdated.

An alternative scenario bases on circular economy theory, whereas new development bases mostly on what already circulates in the built environment, life-cycling of products and solutions are treated seriously and recycling or reusing play crucial role. Theories of urban metabolism and industrial ecology were also helpful to create and utopian strategy.

Methods chosen in this phase were mostly revolving around literature studies on related field to circular economy (IMSA Amsterdam, McArthur Foundation, Tilie N. Et. Al. – see theoretical framework). Writing about circularity in urbanism and urbanist role in face of transition towards circular economy helped to create an individual position towards the topic. Preliminary mapping of industries in the area, understanding history of the place and flows of products and waste created smooth transition to the design phase. The novelty of circular economy, especially in the aspect of urbanism, was very problematic when writing review paper.



### *Phase 3: Design*

**Studio:** Students focus on physical intervention in the chosen area based on research on the chosen topic.

**Master thesis:** The further development of graduation project was to research deeply the possibilities of the area in relation to concepts of circular economy, industrial ecology, urban metabolism, urban mining, recycling the city and related ideas.

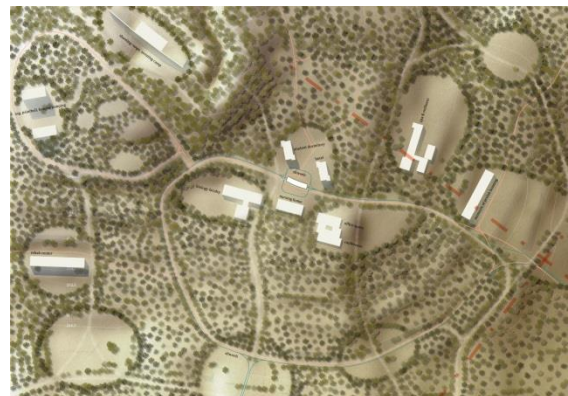
Methods chosen in this phase were: collecting data about flows of energy and materials in Nowa Huta, mapping flows between industries and housing areas, creating matrix of connections in order to create proposal for new relations. The methods were directly transformed into design proposals such glasshouses from recycled windows on the post-industrial area close to power station that facilitates them with spare CO<sub>2</sub> and excess heat; another example: scenario of utilization of fallow lands and post-industrial brownfields to plant energetic willow that profit can partially be used to repurchase river valley to achieve dynamic river landscape that restores original marshy biodiversity in the area. In general, that part was very succesful. Circular economy theory opens new fields of creativity. Designing with strong respect on what is already at the location was a good, stimulating framework for master thesis.

### *Phase 4: Present*

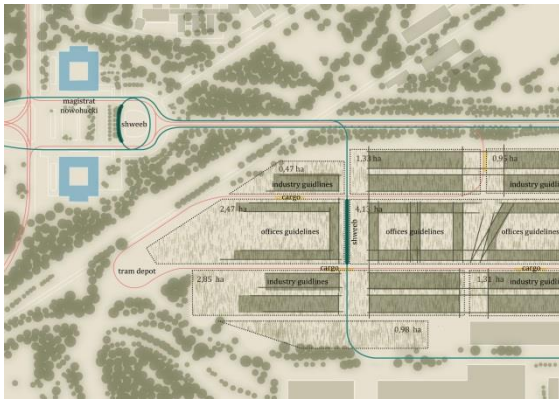
**Studio:** Culmination of Research and Design. Student should express his findings and intervention using known techniques.

**Master thesis:** The P5 presentation is meant to demonstrate scenario of transition of Nowa Huta into circular economy by animated plans (1:2000) that shows the process rather than design. The plans locations are supplementary to each other, selected from the Guideplan for the whole area as representative. Each of the seven plans is facilitated with its specific research, case studies and design rules reflecting its characteristics. Seven visualizations of the areas are ment to help imagining the outcome of changes and are artistic expression of the scenario. Working individually on the large area, trying to analyze many topics to present a process of changes was overwhelming and sometimes frustrating task...

### **Chosen areas (Mezoscales):**



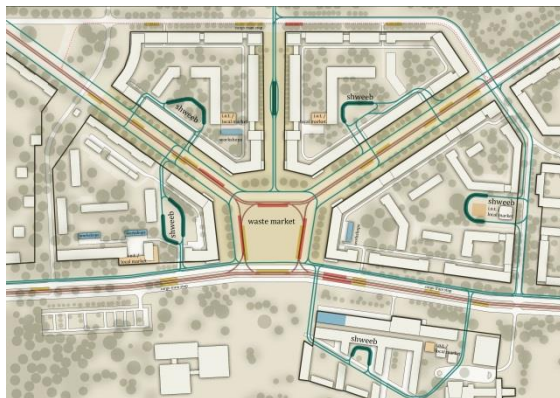
Area 1) Mistrzejowice – area selected to be desolated due to population projections in Poland. Abandoned buildings creates urban mining: prefabricated concrete walls will facilitate development in different areas, windows will create glasshouses, concrete slabs – bicycle paths in the dynamic river landscape



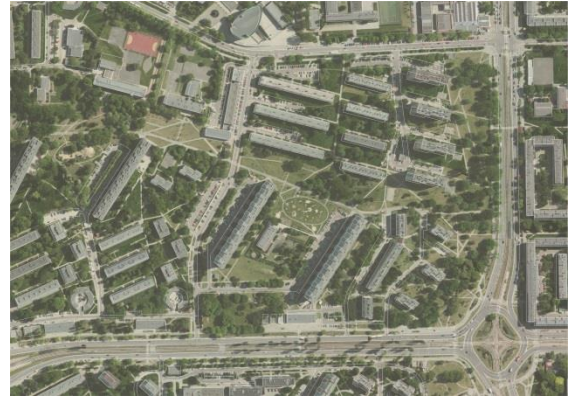
Area 2) Steelworks – In the second half of 2015, steelworks will decide if it continues to function in Nowa Huta, that the city took the name from. Some of the parts, already abandoned will serve for new industry that services new transport – shweeb, arranges transformation of Nowa Huta, resides local activists, actors and artists and bring office space for budding industries such as glasshouses, willow furniture, communist tourism etc.

Area 3) Czyżyny – area close to power plant, benefiting from excess heat and co2 for greenhouse agricultural production. Glasshouses are created from recycled windows, buildings for farmers community are made of prefabricated walls from Mistrzejowice (area 1)





Area 4) Centrum A-D – historical urban units that suffer from destroying of bonds within community and decaying public spaces. This area focuses on scenario of 100% recycling household waste rates, currently around 40-50%. The collective effort in the form of resource for local incinerator will bring money for civic budget that will be spent in urban units. More than 20 small proposals such as waste shafts facilitating recycling, bread stove in public space, playground for kids or others can be chosen by citizens from money obtained from incinerator.



Area 5) Bieńczyce – reorganizing modernistic formless urban tissue into more consistent positive area together with proposing more services and sustainable transport (shweeb). The area is meant to gradually be transformed into more clear urban form, that is needed to achieve compactness of city, needed for sustainability



Area 6) Ruszcza – an exemplary design of one of the Nowa Huta villages. Specific strategy modeled on Dutch land reparation after WWII is applied in order to enhance agricultural productivity. Villages in Nowa Huta are ment to organize their live around willow industry – both, for energetic reasons as well as for sustainable furniture.

Area 7) Vistula River – Repurchasing arable land from farmers using nature fund as a tool in order to achieve dynamic water landscape in the area. Concrete slabs from Mistrzejowice creates bicycle paths for tourists and citizens. Biodiversity stored in small Forests – Lasek Łęgowski and Lasek Mogilski is spreading along the river.

#### **ASPECT 4:**

The circular economy is a theory that applied can revolutionize paradigm of using resources on our planet. It promotes cycles of flows and reusing waste from one industry by another. Also pays attention to life-cycle thinking about development of new products. **The position presented in this master thesis tries to apply the same way of thinking in urbanism realm. Focusing more on local entrepreneurship, rediscovering what is already working in given space and rearranging its functioning is believed to be vital for any analyzed area, not only in Nowa Huta.** Thinking wider about social context, it is needed to realize that promoting local, self-sufficient system units that have its own industries and identities is also smoothing inequalities in the globalized world.